Microsoft Security

Decentralized Identity

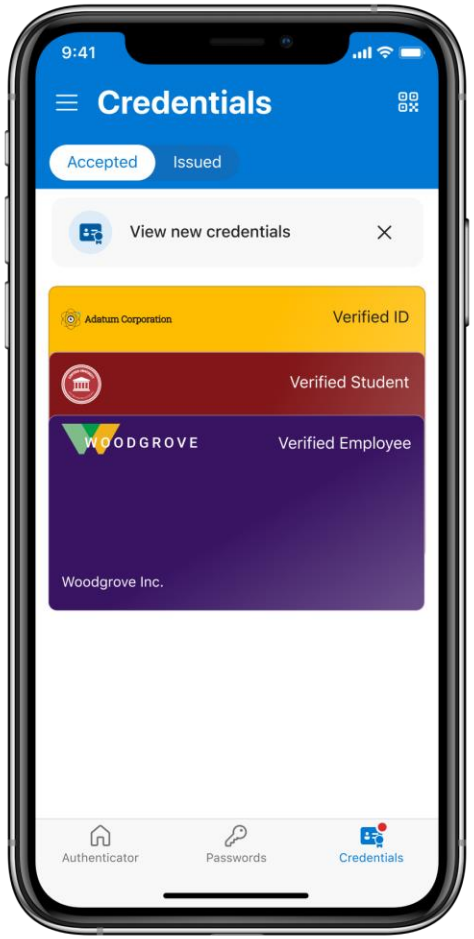
at Microsoft

2018: Incubation hypothesis

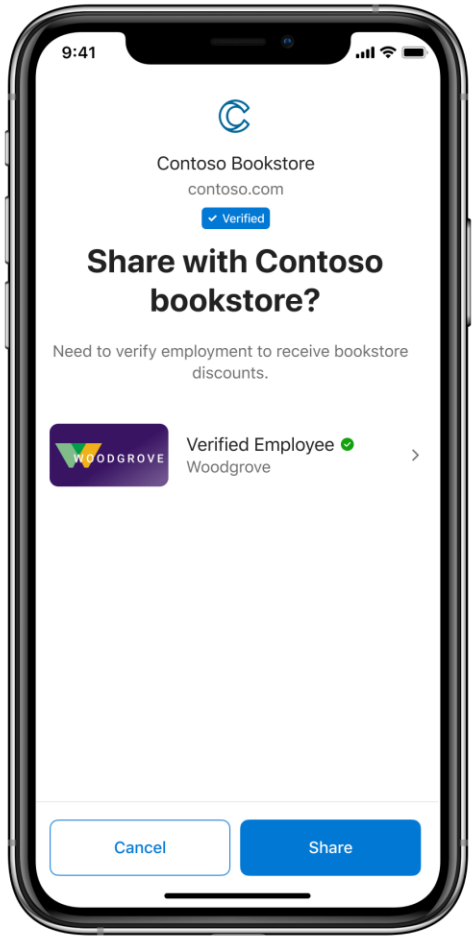
2022: First Release!

> Each of us needs digital identity we own and control, one which securely and privately stores all elements of our digital identity.
>
> This self-owned identity must seamlessly integrate into our lives and give us complete control over how our identity data is accessed and used.

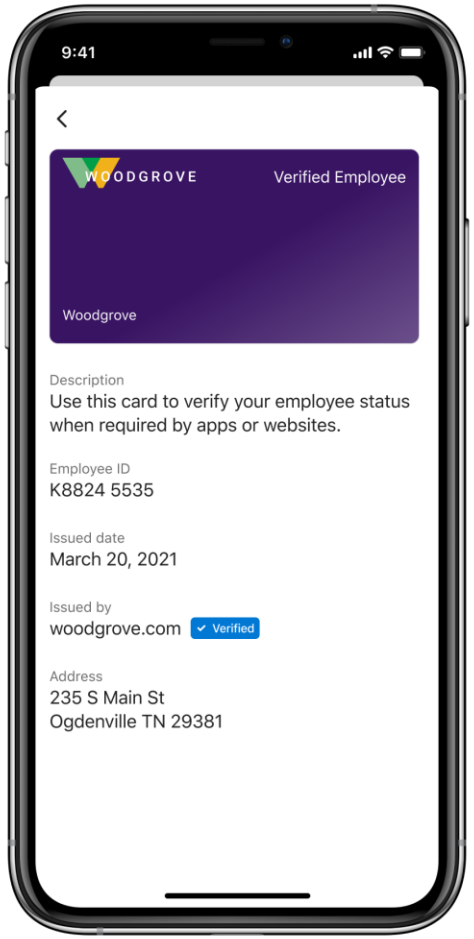
Entra Verified ID: a better way to verify



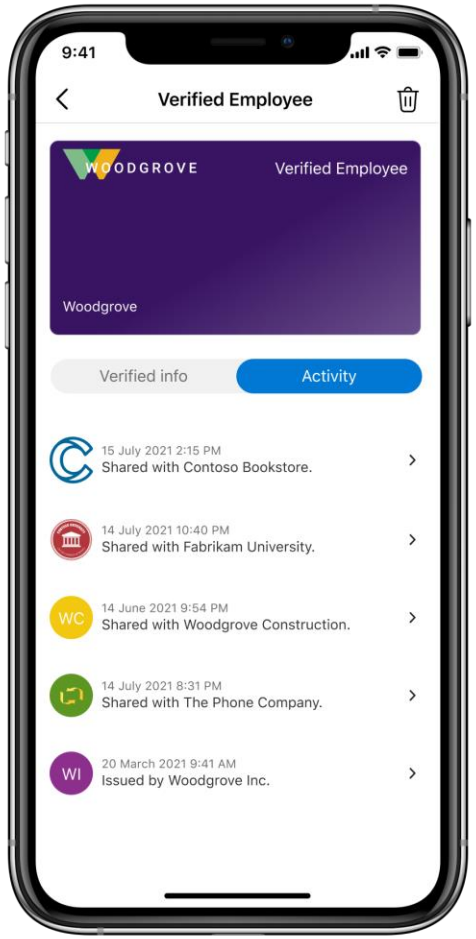
Easy to use and secure



Verifiable

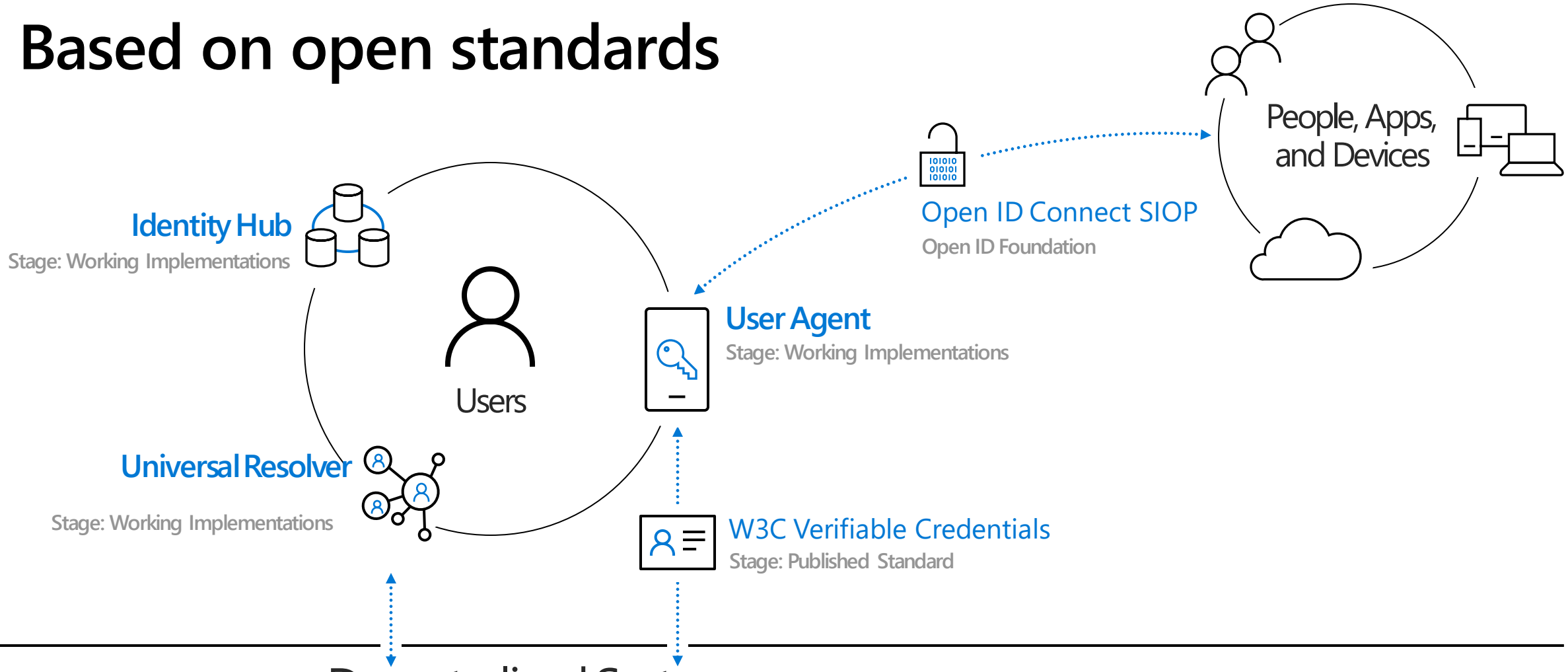


Transparent

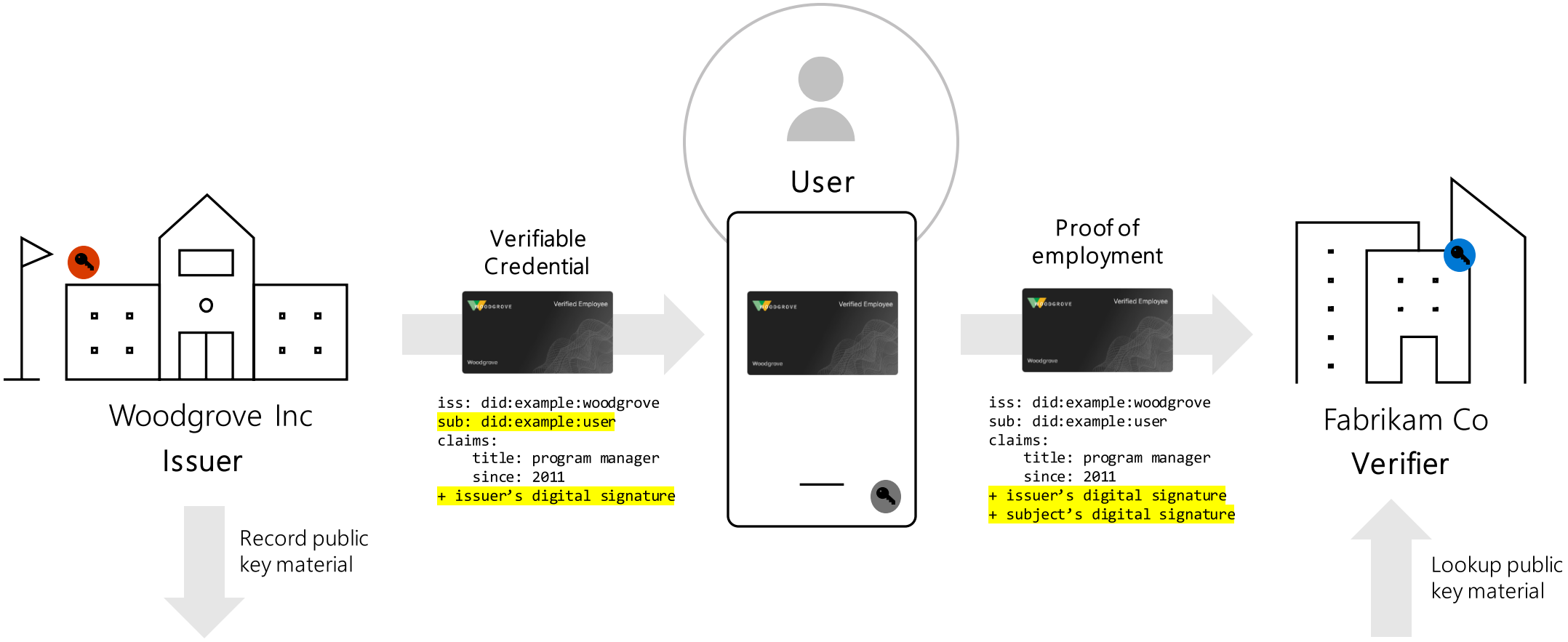


Convenient

Based on open standards

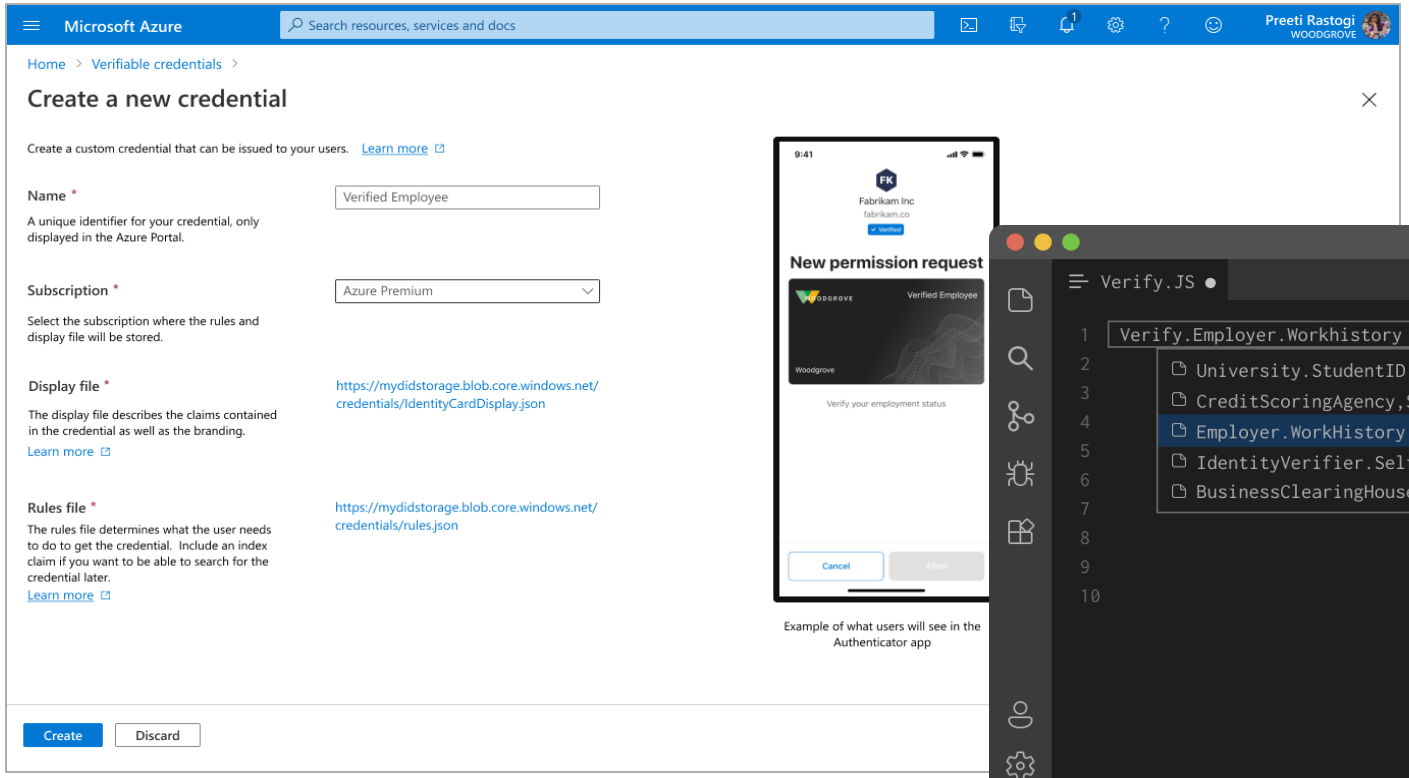


How does this work?

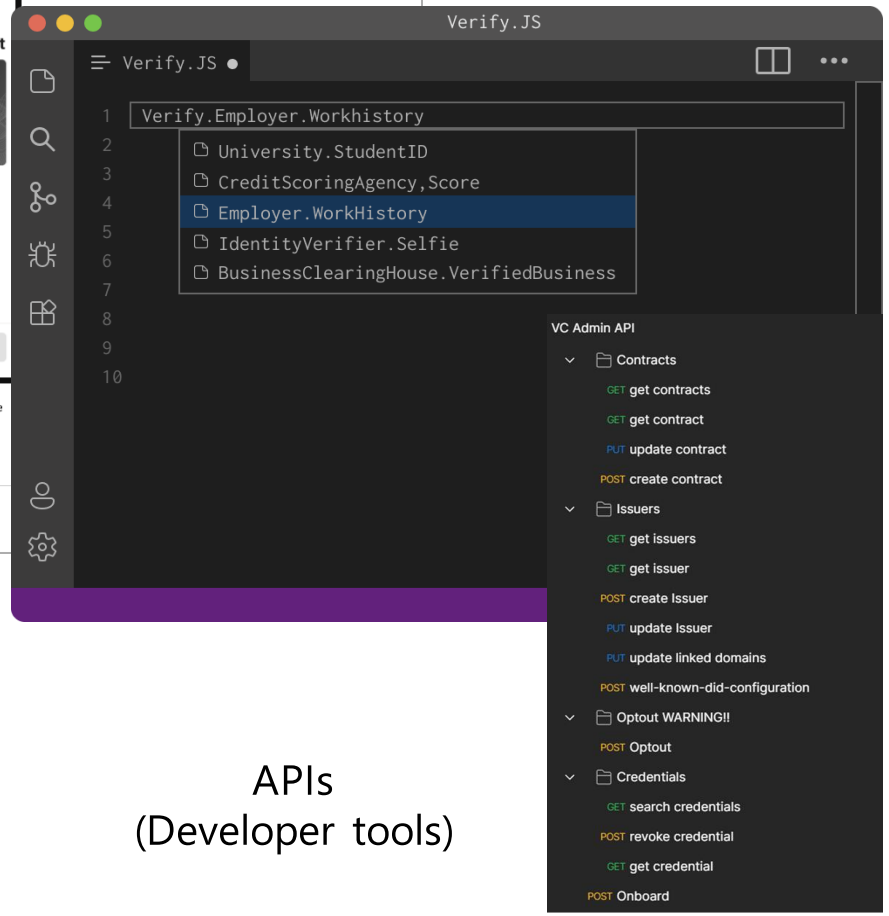


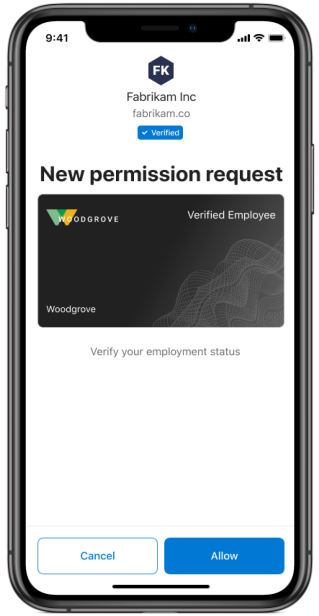
Microsoft

Decentralized Identity Platform by Microsoft



Example of what users will see in the Authenticator app





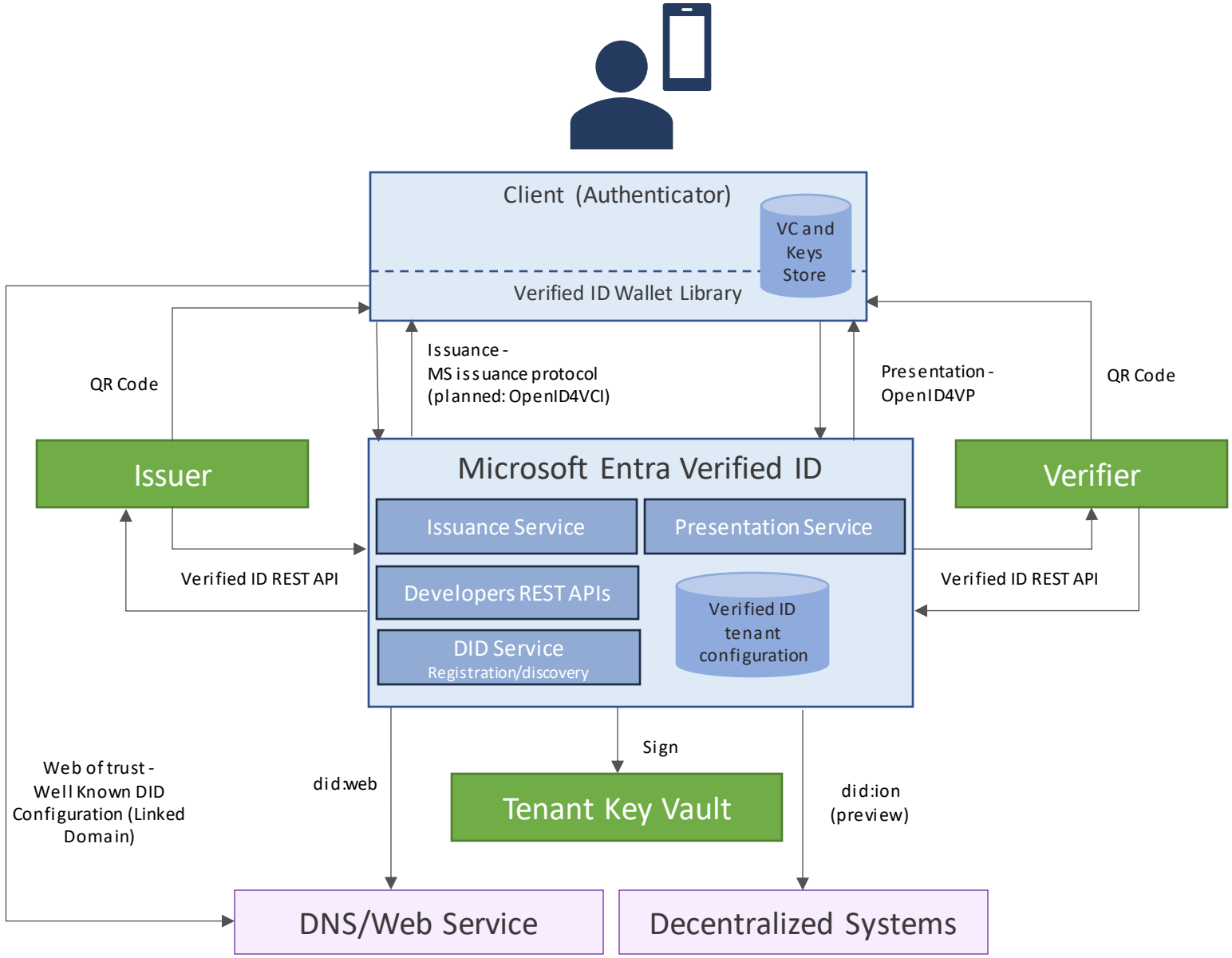
Issuer & Verifier interface
(Entra Verified ID)

APIs
(Developer tools)

Wallet library
(Microsoft Authenticator)

Architecture goals:

1. Decentralized system to request and verify credentials at scale
2. Ensure interoperability as standards and partnerships evolve
3. Simple APIs to ensure consistent interactions that abstract standards and cryptography



Verified ID

Enable more secure interactions while respecting privacy with an industry-leading global platform.

Fast remote onboarding

Validate identity information for trustworthy self-service enrollment and reduced time-to-hire.

More secure access

Quickly verify an individual's credentials and status to grant least-privilege access with confidence.

Easy account recovery

Replace support calls and security questions with a streamlined self-service process to verify identities.

Custom business solutions

Easily build solutions for a wide range of use cases with our developer kit, APIs, and documentation.

Ongoing value journey: Worker productivity

Accepts job offer

Visits employer portal to complete pre-onboarding

Identity validated by network partner

Receives **verifiable credential** with proven identify attributes

First day of work

Uses verifiable credential to **remotely access** and set up new account

Receives **workplace credential,** enabling access & benefits

Completes **trainings**, attested to workplace credential for **compliance** and access

Efficient access to **employee perks** and ongoing life tasks

Demonstration:
ID verification based on open standards

http://aka.ms/diddemo

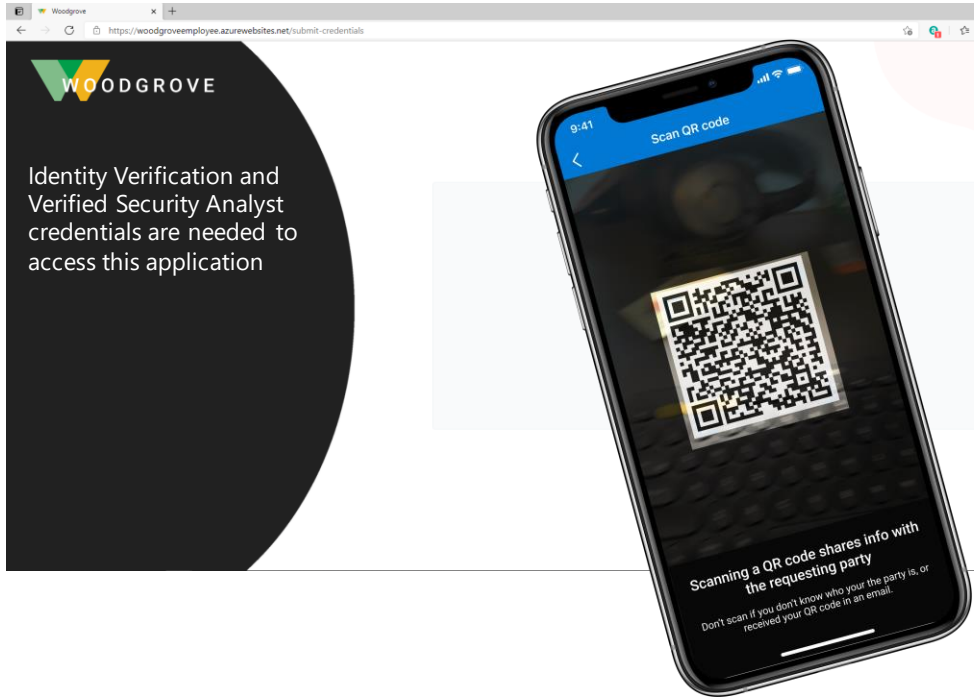
Secure access to applications

Quickly verify credentials and get access to sensitive resources that have advanced security requirements

Start

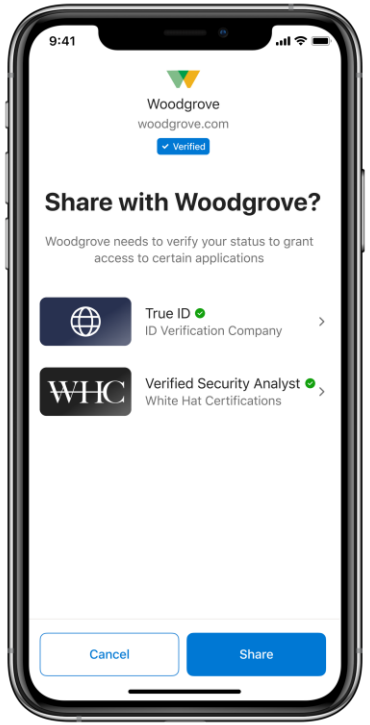
Sign in

User attempts to sign in to a high-privilege app at Woodgrove



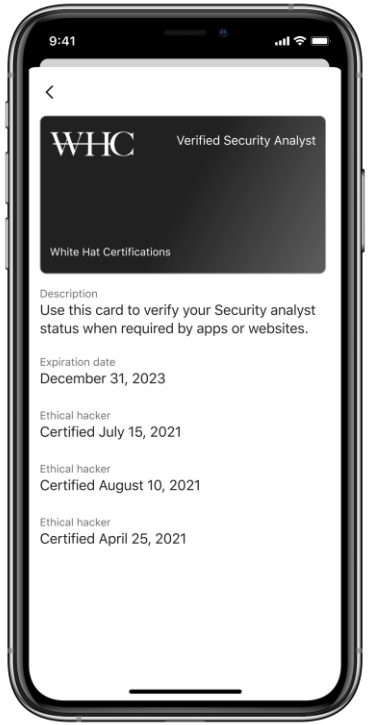
Presentation

User shares the requested verifiable credentials



Detailed view

User confirms which claims are being shared



Northwind Airlines Home Identity Challange Lounge Access

Identity Challange

Prove your identity by pressing the **Verify Credential** button and present your membership card

Waiting for user to present VC

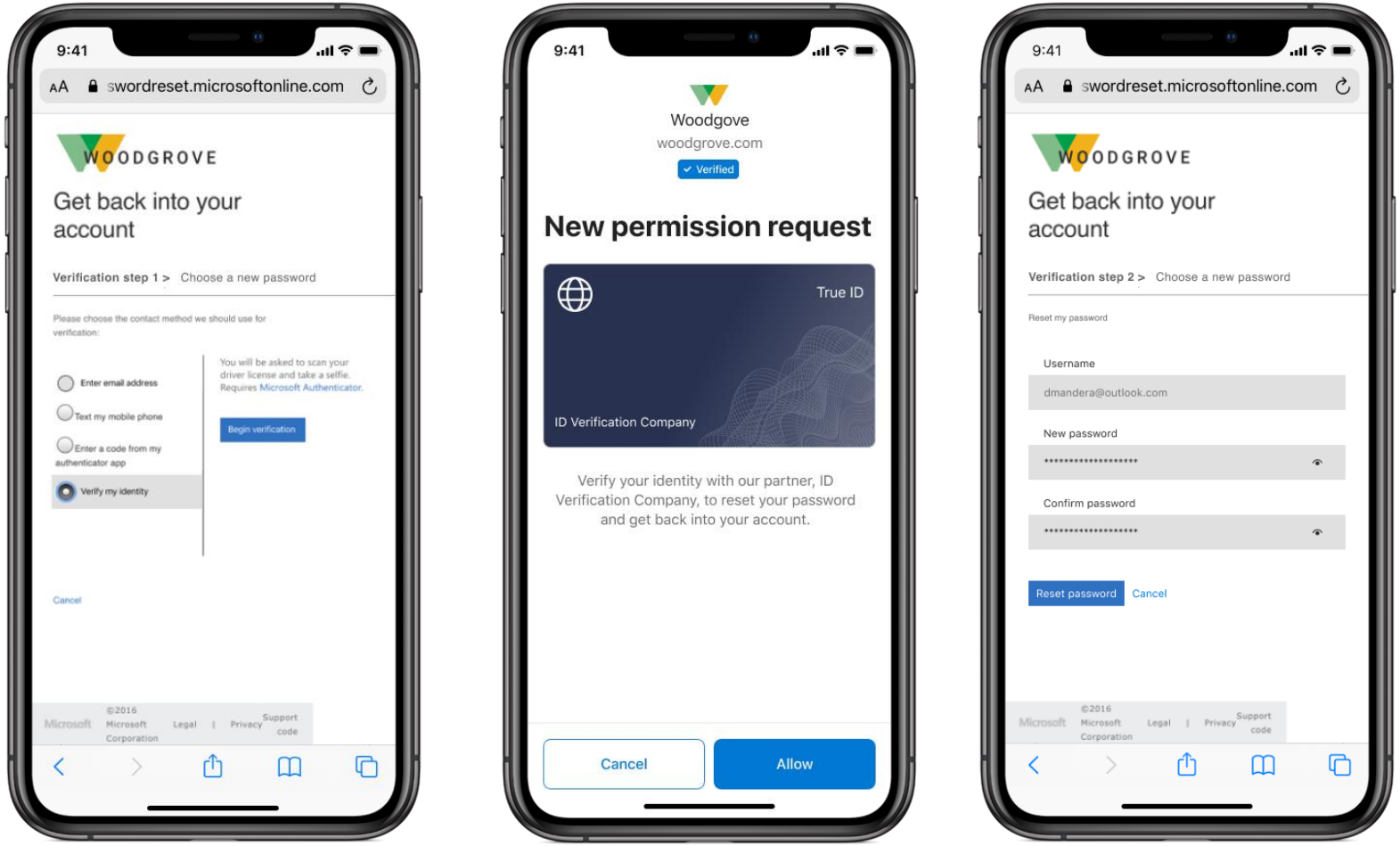
Scan with Microsoft Authenticator or Custom Wallet

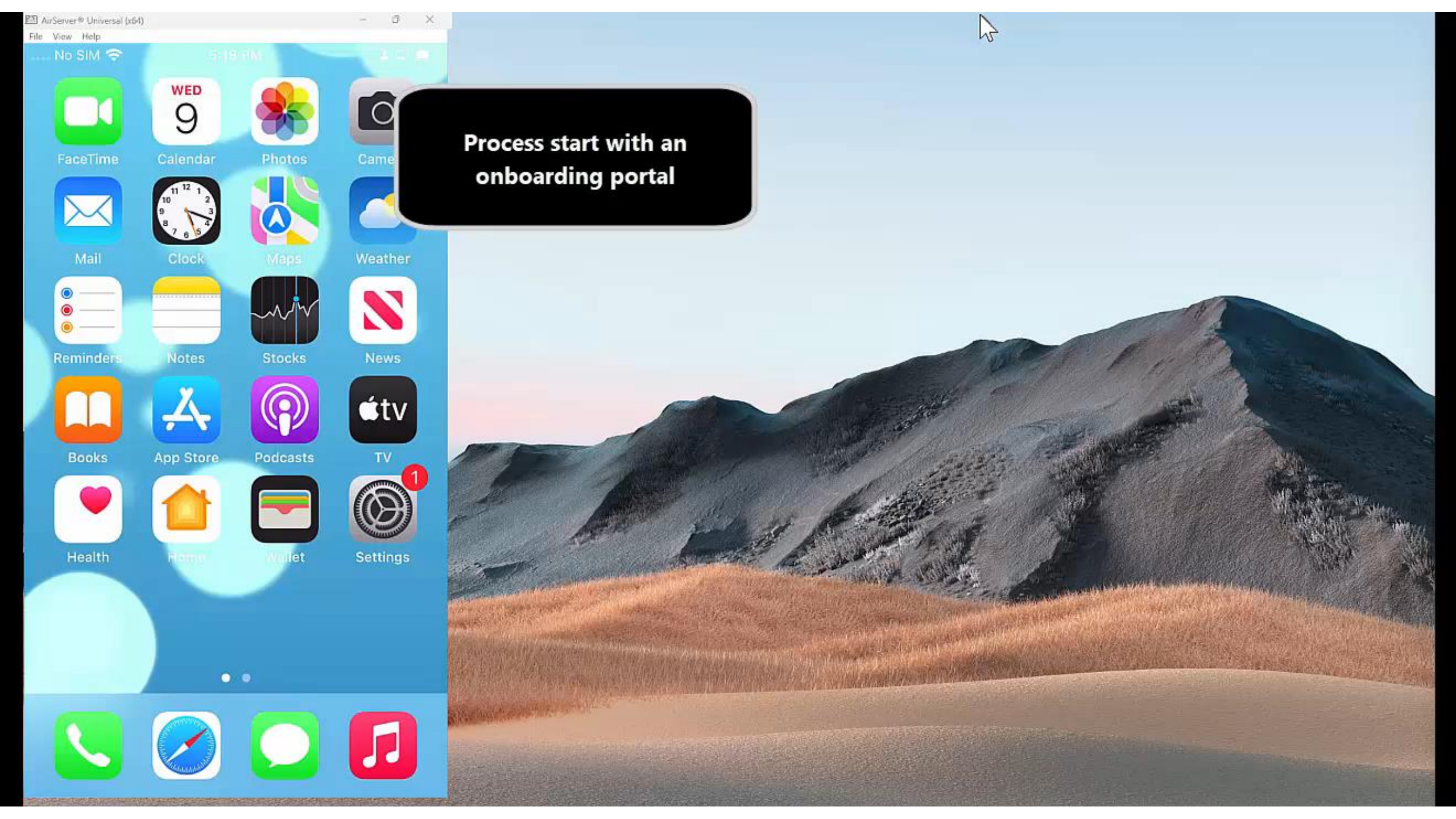
AirServer Windows 10 Desktop Edition

Rohit Gulati

Account Recovery

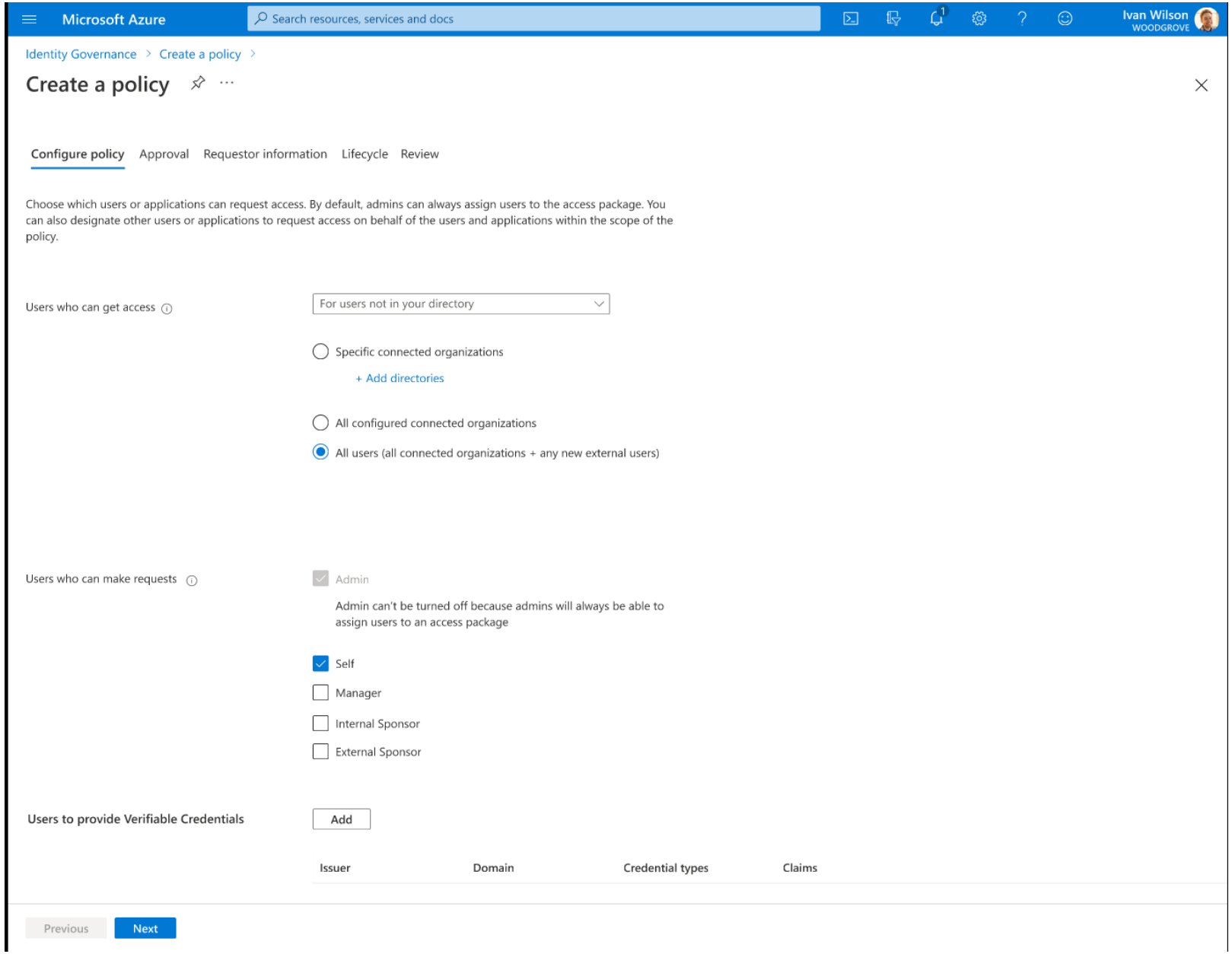
Reduce support phone calls and security questions with a simpler, more secure process to verify identity.



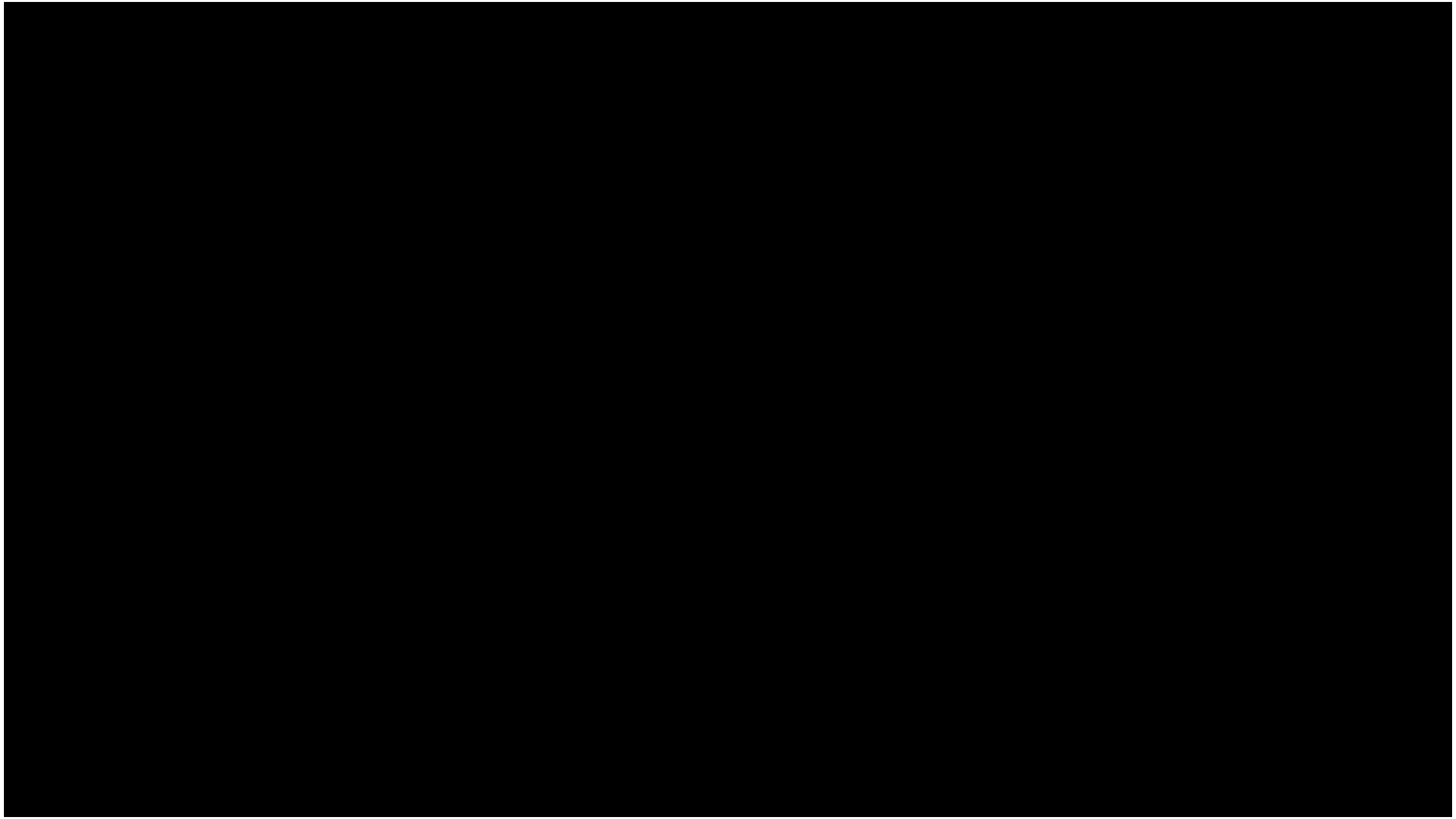

AirServer® Universal (x64)
File View Help
No SIM
5:18 PM
FaceTime
WED
9
Calendar
Photos
Mail
Clock
Maps
Weather
Reminders
Notes
Stocks
News
Books
App Store
Podcasts
TV
Health
Home
Wallet
Settings
1
Process start with an onboarding portal

Entitlement Management with Verified ID

- Verify granular attributes from a wide set of issuers
- Reduce approval fatigue
- Automatically revoke access when VC is revoked
- Better compliance posture

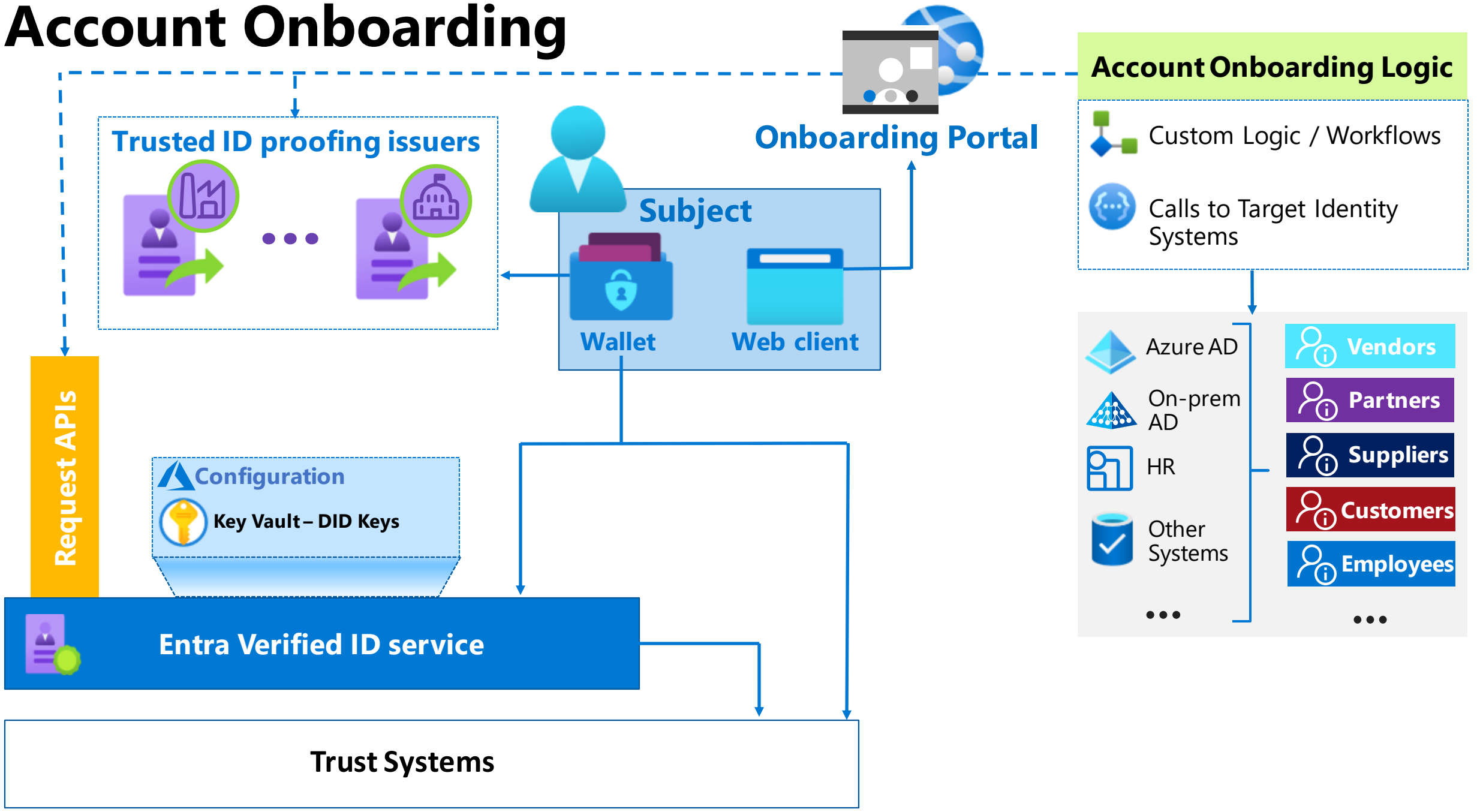


Let’s see it in action

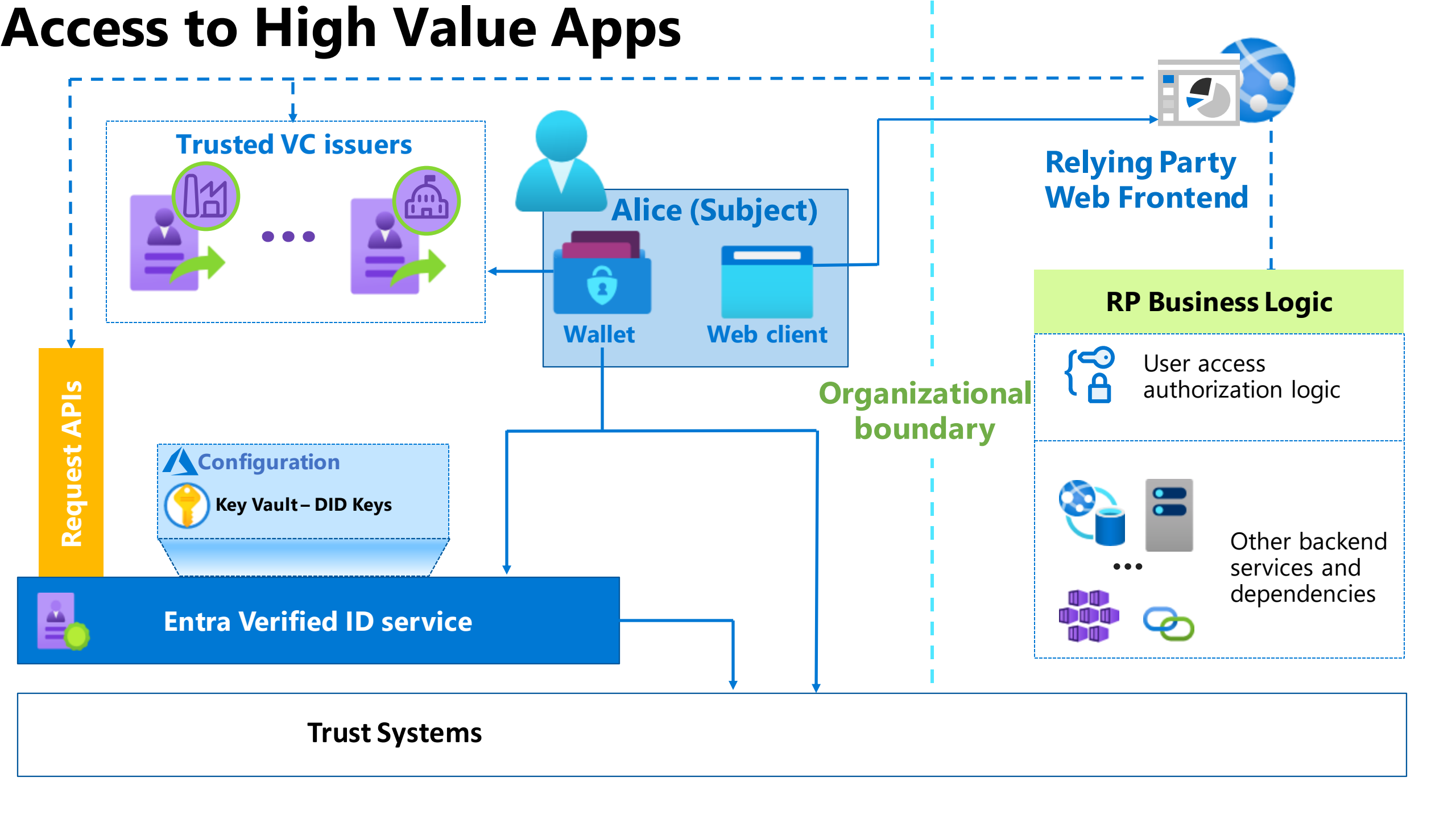


Building Blocks - Blueprints

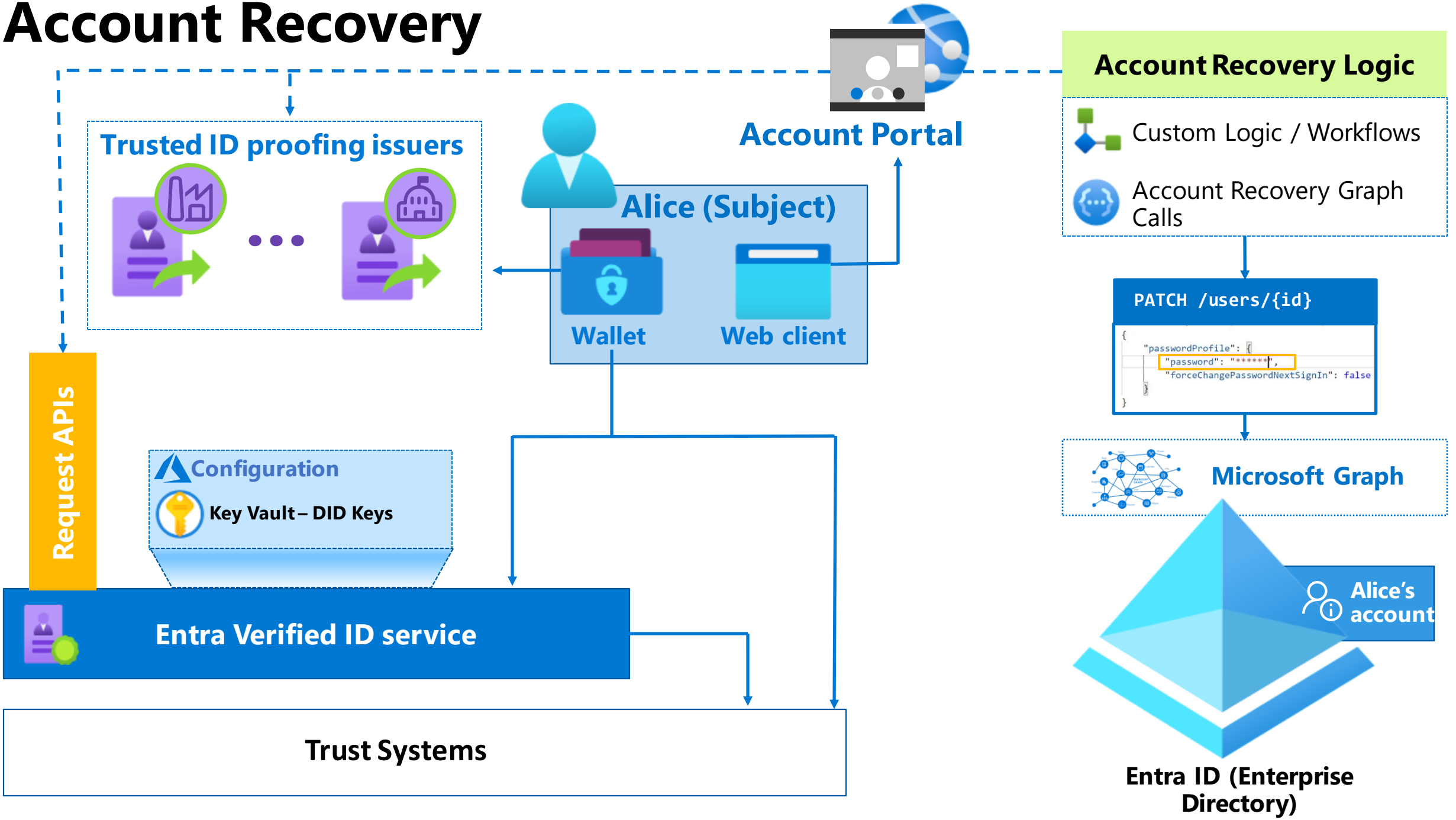
Account Onboarding



Access to High Value Apps



Account Recovery



Repository

ARM	upd with new 1st party appIds	4 months ago
B2C	Rules & display updates for B2C	21 days ago
CredentialFiles	Added VC input sample	6 days ago
Postman	updated postman instructions and added admin API	last month
ReadmeFiles	added QR code on signin page policy	2 months ago
scripts/contractmigration	fix. added validityInterval and vc.type	24 days ago
CODE_OF_CONDUCT.md	Initial CODE_OF_CONDUCT.md commit	2 years ago
README.md	GA release	last month
SECURITY.md	Initial SECURITY.md commit	2 years ago

GitHub Repo - https://aka.ms/vcsample

Verified ID: Scenarios

Hiring

- Identity verification
- Workplace credentials / employee ID
- Benefits onboarding
- Access

Worker Life

- Annual Benefits
- Employee Discounts
- Business to Business
- Business to Contractor

Alumni

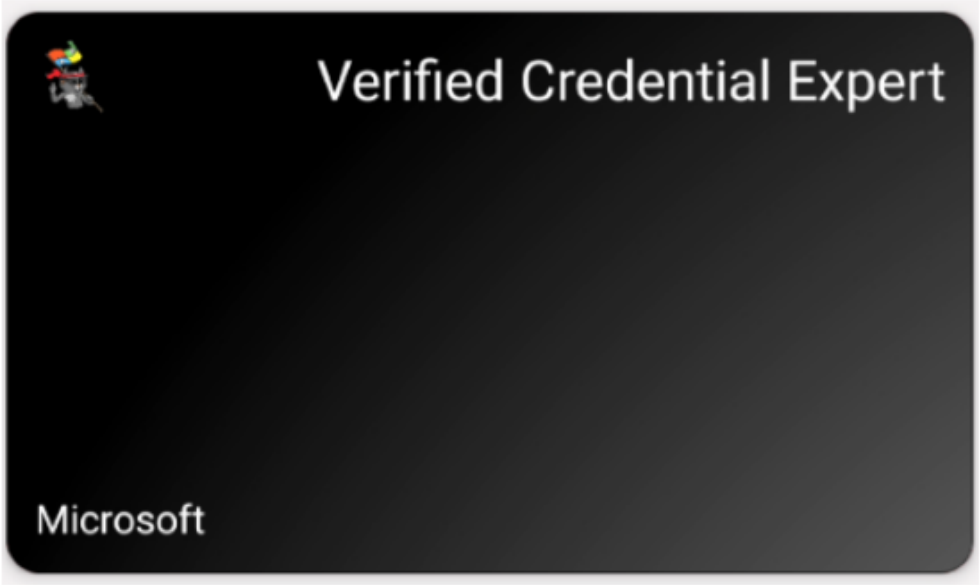
- Last Day at Employer
- Alumni Benefits
- Proof of Employment
- List of Certifications

Verified ID: Scenarios

Worker Life

- Training/Licensing/Certs
- Cross Tenant access/managing customer environments
- Application Access
- Access to Conference/events/Projects

Sample Repository



There are several samples:

- .NET
- Java
- Node
- Python

Customer stories

Agilus and Credivera create a people-centric business by employing Microsoft Entra Verified ID

Condatis revolutionizes staff management with Microsoft Entra Verified ID

How a decentralized identity and verifiable credentials can streamline both public and private processes

UK Department for Education raises career potential for the next generation with Microsoft Entra Verified ID

RMIT future-proofs the university-to-student connection with Microsoft Entra Verified ID

Avanade reimagines access to training and skills management using Microsoft Entra Verified ID

University to enable students to securely manage their own transcripts with Verifiable Credentials

With high levels of security and trust, the NHS rapidly meets clinical demands using verified credentials

http://aka.ms/VerifiedIDcustomers

Next steps

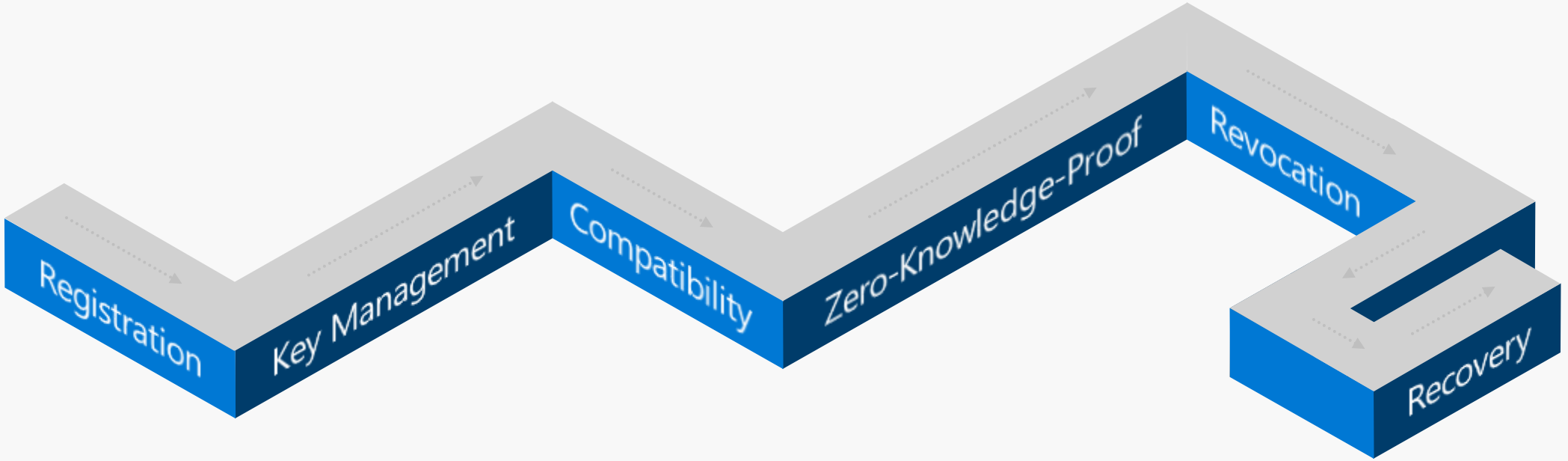
Microsoft

The next 3 steps to making the ecosystem real

1. **Ease of use**
   - ✓ Registration
   - ✓ Key management
   - ✓ Interoperability

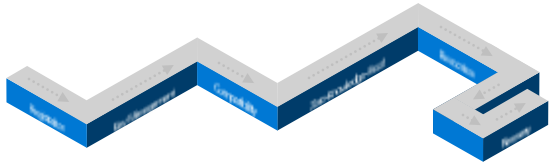
   Recovery and revocation

   Selective Disclosure & Zero-knowledge-proof



The next 3 steps to making the ecosystem real

1. Ease of use

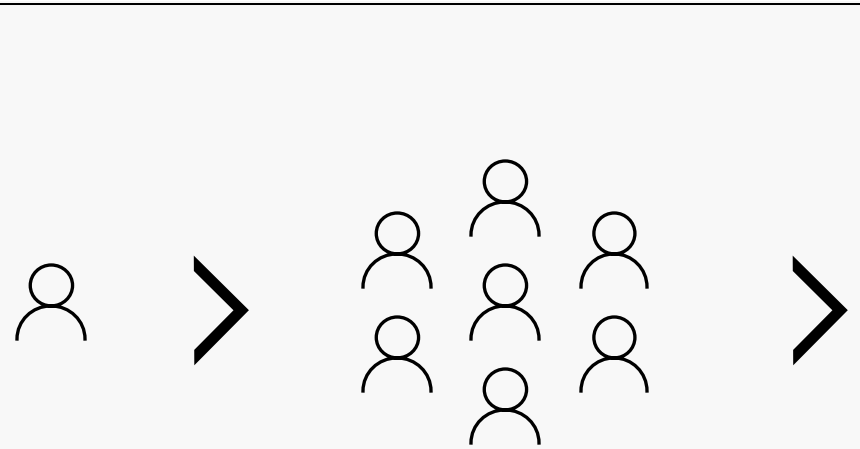


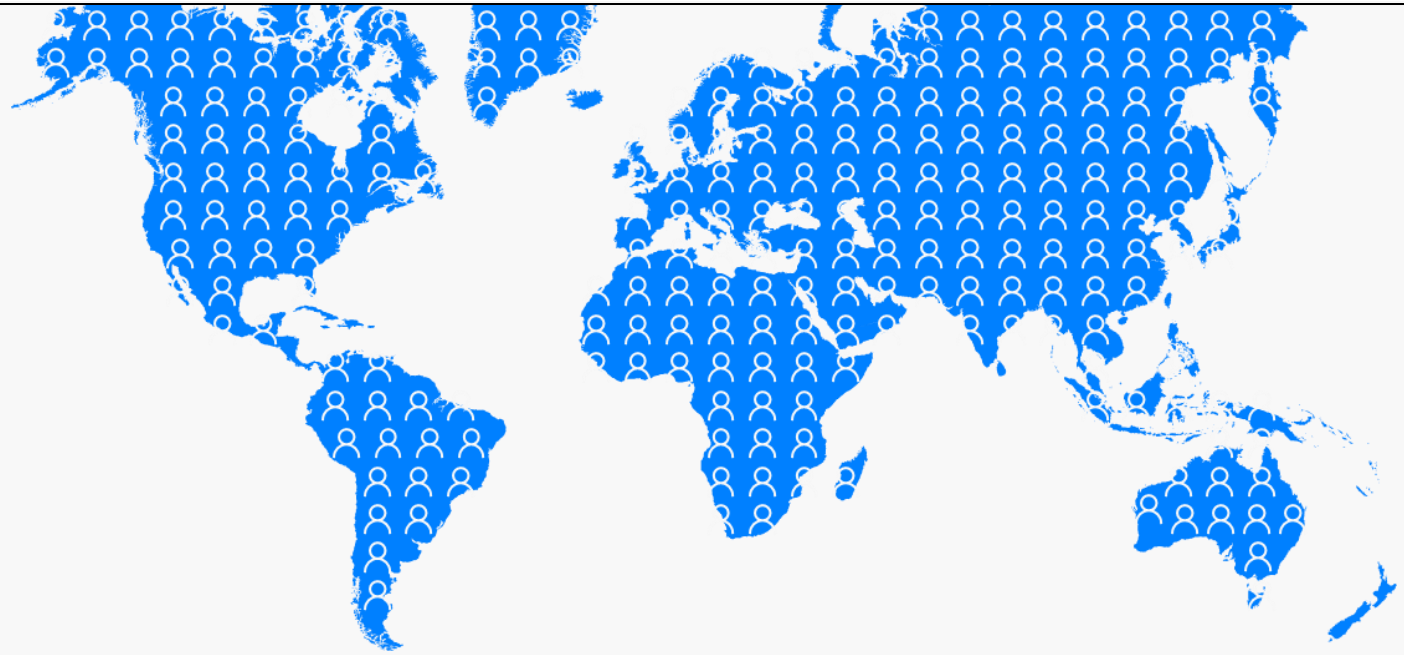
2. Performance & Scale

✓ DID:Web

DID:ION (public preview)

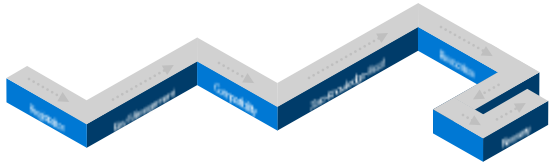
Other methods?





The next 3 steps to making the ecosystem real

1. Ease of use



2. Performance & Scale

3. Join, collaborate, and contribute

DIF

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mooti r3. Authenteq validatedID BAYONET EQUINIX KYC-CHAIN JOLOCOM onfido

BLOCKPASS Ockam NuID MetaX DIID nuggets TRUSTED KEY R_BLOCK ONTology Meeco enigma

Jumpstart with partners

Leading Identity verification partners

Acuant

Au10tix

Jumio

Idemia

Lexis Nexis

Onfido

Socure

VU Security

Accelerate adoption with a growing ecosystem of partner solutions

+ 27 partners…and growing!

192 Countries

6000 Identification documents

1000's Organizational attributes

Millions Individual ID attributes

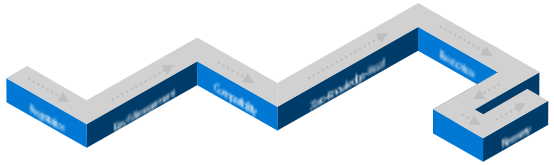
Decades of experience to go from idea to implementation in hours

Resources

1. http://identity.foundation Industry working group for all things Decentralized ID (DID)
2. http://aka.ms/didwhitepaper White paper by Microsoft: approach for DID + Verifiable Credentials
3. http://aka.ms/didexplained Quick overview
4. https://youtu.be/Whc9Im-U0Wg Overview for developers: scenario walk-through and how-to
5. http://aka.ms/didfordevs Developer documentation
6. Blogs (scale and performance and self-owned key recovery)
7. https://aka.ms/vcinterop VC Interop profile
8. https://aka.ms/diddemo Demo site
9. https://aka.ms/verifiedloyalty - Microsoft Build session (wallet library)

The next 3 steps to making the ecosystem real

1. Ease of use



2. Performance & Scale

3. Join, collaborate, and contribute

Thank you.

Microsoft

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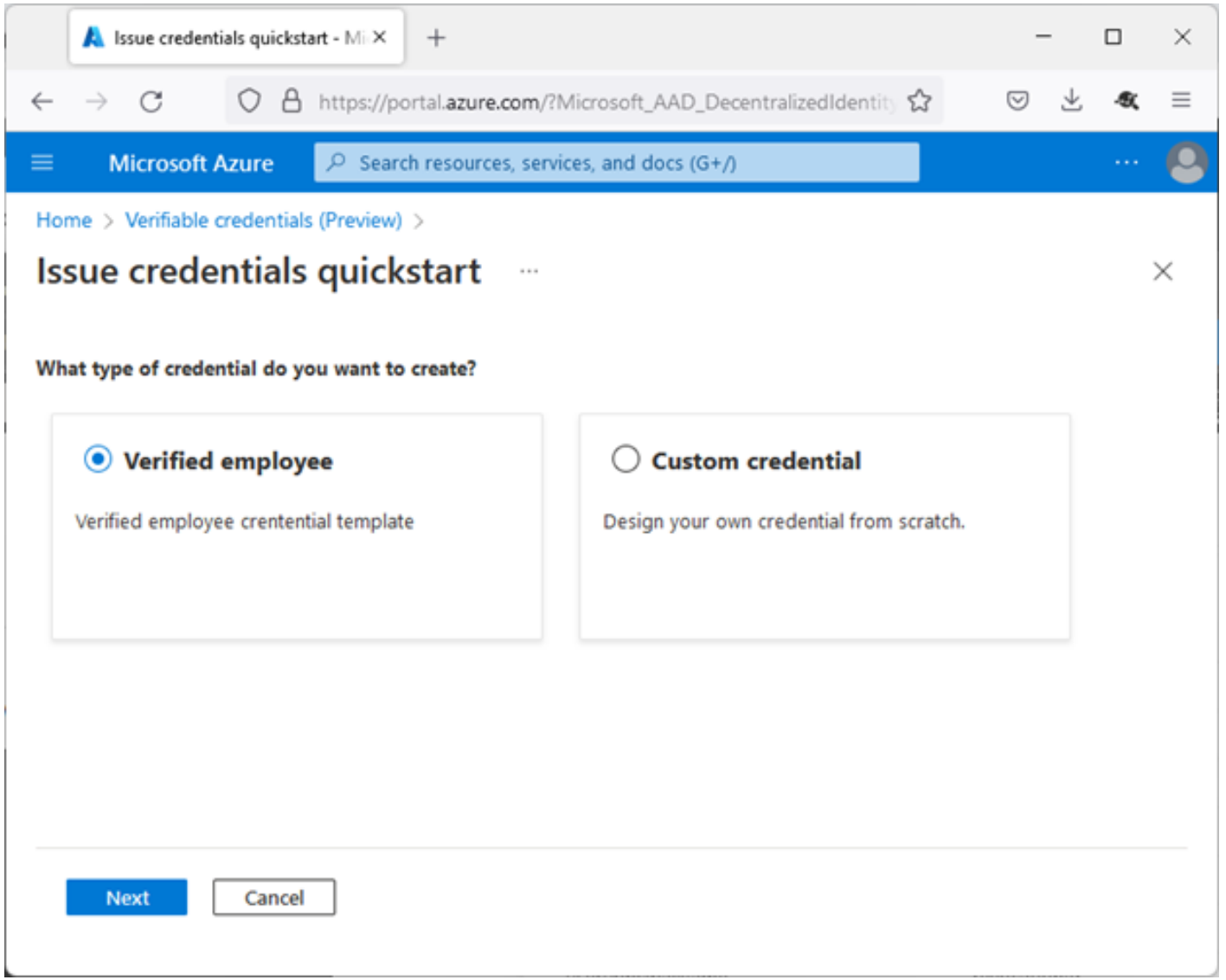
Microsoft

http://aka.ms/vcdetails

Thank you

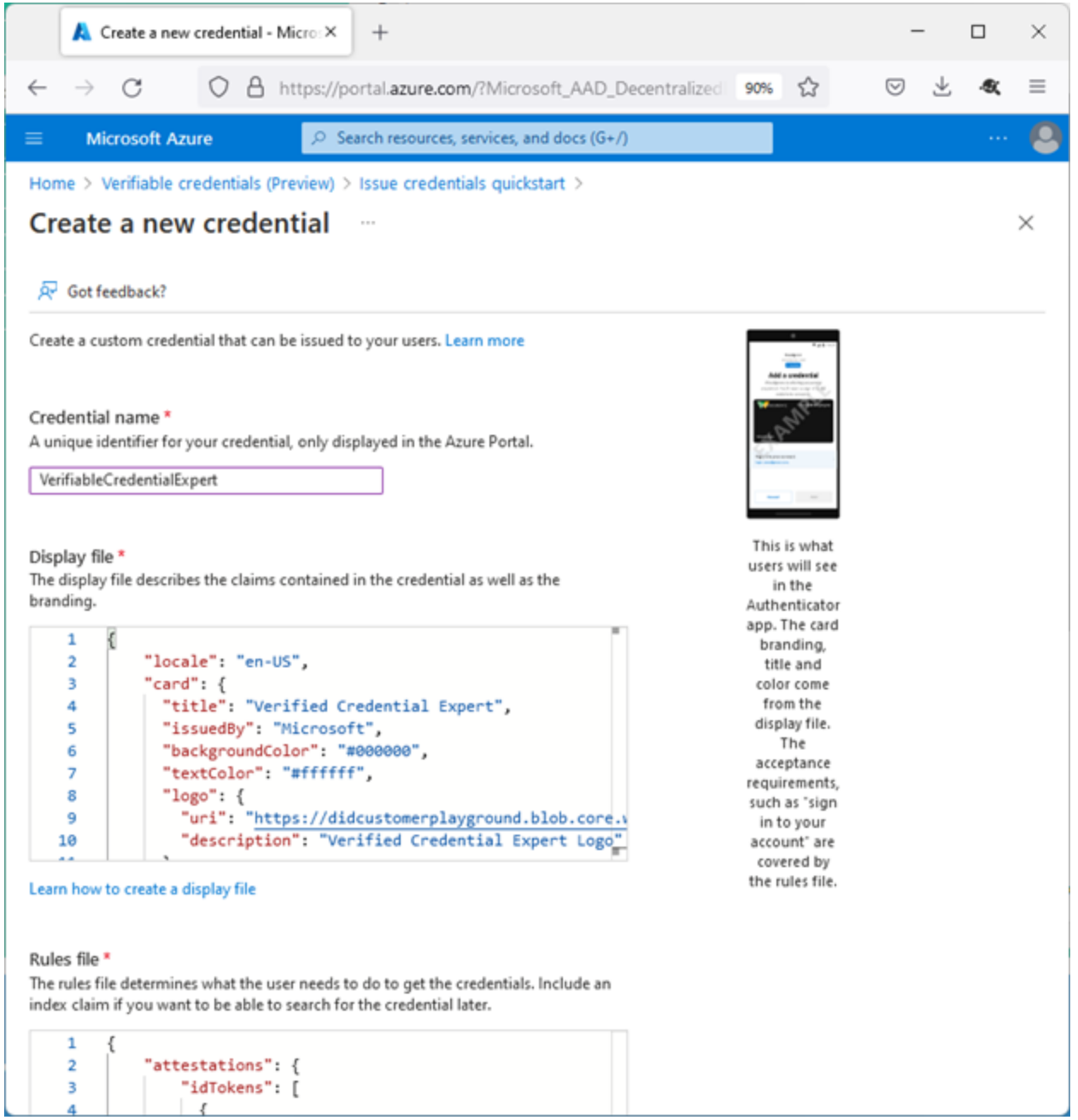
Quickstart for Directory based claims

Effortlessly create a credential where the claims come from a user profile in the directory of the **Azure AD tenant**



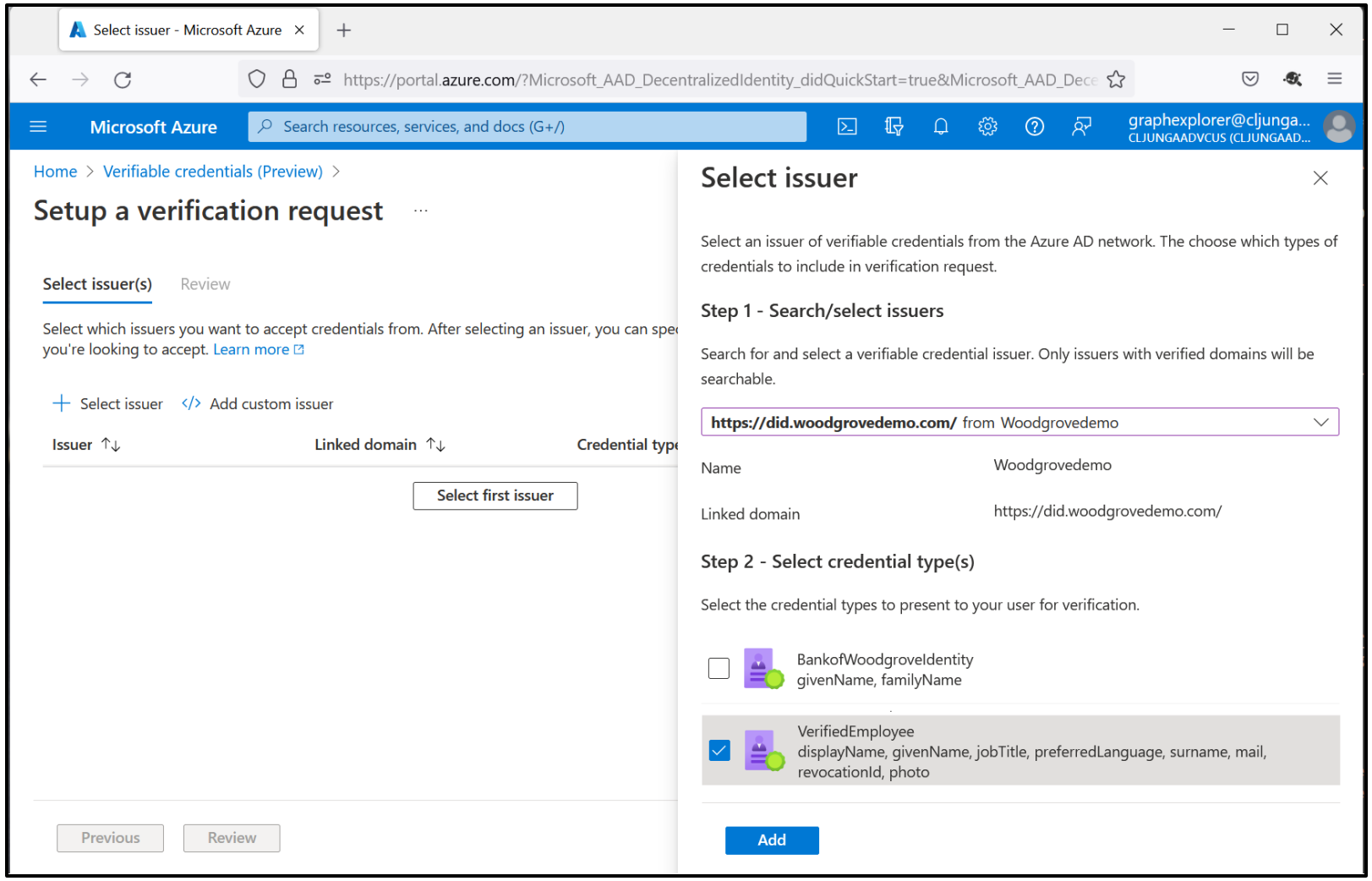
Quickstart for Custom credentials

When using the Quickstart, just enter all details in the Azure portal and create a custom credential on a single page



Microsoft Entra Verified ID Network

Search for published credential types and schemas in the Entra Verified ID Network to easily generate a presentation request



Verifying credentials using Microsoft Entra Verified ID Network